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REVIEW OF "FUNDAMENTALS OF BOMBSIGHT CONSTRUCTION"

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The second edition of I. Ye. Efros' book, Fundamentals of Bombsight Construction (Military Publishing House, Ministry of Armed Forces), has just been published.

The book contains nine chapters. Chapter I deals briefly with the principles of range sighting when bombing from horizontal flight. Chapter II trates the optics of sights. Chapter III describes the mathematical mechanism of addition, multiplication, trigonometry, and the use of checking devices, conoids and graphs for solving sighting problems. Chapter IV deals with regulators used in sights, giving a description and principles of centrifugal and brake governors and also the timing mechanism used for obtaining constant speed.

Synchronous electrical transmissions and servo systems, including three- and four-conductor and selsyn transmissions, are described in Chapter V. The principles of stabilization of the sighting beam and vectors, and pendulum and gyroscopic verticals are discussed in Chapter VI. Heading correction and sighting methods are discussed in Chapters VII and VIII, and Chapter IX deals with fundamentals of sight mechanisms such as sighting angles, bombarding angles, etc.

The book contains 253 illustrations with 317 pages of text. The material is written for the layman using elementary mathematics.

However, the title is deceiving in that the author discusses problems connected only with bombing from horizontal flight at medium and high altitudes, completely omitting other methods. He also omits the theory and description of the electric calculating devices used in conjunction with bombsights.

In the majority of cases, the author has described foreign and, fundamentally outdated equipment and methods, while bombing theory and bombsight construction owe much to Russian and Soviet scientists and designers such as V. L. Kirpichev, Tolmachev, Stechkin, Lebedenko, and Rezunov.

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Efros has made no attempt to generalize his material, nor has he made any conclusions on development perspectives. Thus, he has formed the opinion that "maintenance of stable flight conditions is the basic condition for accurate range sighting," which is quite false since bombsight development includes principles whereby the sight automatically accounts for a change in the flight pattern.

Finally, the arrangement of the material is poor. It is not understandable why the material in Chapters VII and VIII was not presented first, and the problems therein then discussed in subsequent chapters.

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